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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,057	08/06/2003	Bruce M. Bathurst	013469-9001-00	1336
23409	7590	03/28/2005	EXAMINER	
MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE MILWAUKEE, WI 53202				RAYMOND, EDWARD
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/635,057	BATHURST ET AL.
	Examiner	Art Unit
	Edward Raymond	2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 October 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-41 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 August 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>20031118</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

### ***Claim Objections***

1. **Claim 35** is objected to because of the following informalities: The phrase "amplifying the environmental characteristic" is not clear. Appropriate correction is required.
2. **Claim 39** is objected to because of the following informalities: The phrase "sigma-delta analog-to-digital converting" is not clear. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-28** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 5,475,384 to Manenti et al.

Manenti et al. teach a sensor assembly comprising: a transducer configured to sense an environmental characteristic (Claims 1 and 16: see Figure 1: Sensor 1); a memory element coupled to the transducer and configured to store a plurality of transducer signatures (Claims 1 and 16: see Figure 1: EEPROM 14); and a processor coupled to the memory and configured to store an adaptive algorithm (Claims 1 and 16: see Figure 1: Controller 11 and also col. 60-62: The Examiner notes that compensation and adaptive are synonymous), to identify the transducer using the transducer

signatures (Claims 1 and 16: see col. 2, lines 50-53), to process the environmental characteristic using the identified transducer signatures and the adaptive algorithm (Claims 1 and 16: see col. 3, lines 1-2), and to output the processed environmental characteristics (Claims 1 and 16: see col. 4, lines 24-27: The Examiner notes that the output is to the computer).

Manenti et al. teach a sensor assembly and wherein the transducer signatures comprise a transducer calibration parameter (Claims 2 and 17: see col. 2, lines 60-62).

Manenti et al. teach a sensor assembly and wherein the transducer signatures comprise a transducer temperature compensation parameter (Claims 3 and 18: see Figure 1: Temperature Sensor 15).

Manenti et al. teach a sensor assembly further comprising a reporting device coupled to the processor and configured to receive and report the processed environmental characteristics from the processor (Claims 4 and 19: see col. 4, lines 24-27).

Manenti et al. teach a sensor assembly and wherein the processor automatically identifies the reporting device, and automatically adjusts the processed environmental characteristics based on the identified reporting device (Claims 5 and 20: see col. 4, lines 34-44: The Examiner notes that since the computer is programmed to communicate to the sensor it has adjusted to the protocol of the computer).

Manenti et al. teach a sensor assembly and wherein the reporting device comprises a personal computer (Claims 6, 13, 21 and 28: see col. 4, lines 24-27).

Manenti et al. teach a sensor assembly further comprising a transducer preamplifier coupled to the transducer, and configured to amplify the sensed environmental characteristic (Claims 7 and 22: see Figure 1: Amplifier 12).

Manenti et al. teach a sensor assembly and wherein the processor repeatedly and automatically detects to identify the transducer (Claims 8 and 23: see col. 4, lines 28-48).

Manenti et al. teach a sensor assembly and wherein the processor chooses an adaptive algorithm based on the transducer signatures of the identified transducer (Claims 9 and 24: see col. 4, lines 13-23).

Manenti et al. teach a sensor assembly further comprising at least one signal converter coupled to the transducer and configured to convert the sensed environmental characteristic to a desired output format (Claims 10 and 25: see Figure 1: A/D Converter 16).

Manenti et al. teach a sensor assembly and wherein the at least one signal converter comprises a sigma-delta analog-to-digital converter, and wherein the desired output format comprises digital data (Claims 11 and 26: see Figure 1: A/D Converter 16: The Examiner notes that a sigma-delta A/D converter is not given any significance, since they perform the same function).

Manenti et al. teach a sensor assembly and wherein the processor calibrates the environmental characteristic with the identified transducer signatures and the adaptive algorithm (Claims 12 and 27: see col. 4, lines 34-48).

Manenti et al. teach a sensor assembly further comprising a transducer housing configured to house the transducer and the memory and a body housing configured to house the processor and coupled to the transducer housing (Claim 14: see Figure 1).

Manenti et al. teach a sensor assembly further comprising a housing configured to house the transducer, the memory, and the processor (Claim 15 see Figure 1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 29-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Manenti et al. in view of Curry.

Manenti et al. teach a method of sensing an environmental characteristic with a transducer assembly, wherein a transducer head is coupled to a transducer body, the

transducer head has a memory, and the transducer body has a processor (Claim 29: see Figure 1), the method comprising: retrieving a plurality of transducer signatures from the memory (Claim 29: see Figure 1: EEPROM 14); processing the transducer signatures to identify the transducer at the processor (Claim 29: see Figure 1: Microcontroller 11); sensing an environmental characteristic using the transducer (Claim 29: see Figure 1: Sensor 1); and outputting the conditioned environmental characteristics (Claim 29: see col. 4, lines 24-27: The Examiner notes that the output is to the computer).

Manenti et al. teach a method wherein the transducer signatures comprise a transducer calibration parameter (Claim 30: see col. 2, lines 60-62).

Manenti et al. teach a method wherein the transducer signatures comprise a transducer temperature compensation parameter (Claim 31: see Figure 1: Temperature Sensor 15).

Manenti et al. teach a method further comprising a reporting device coupled to the processor and configured to receive and report the processed environmental characteristics from the processor (Claims 32: see col. 4, lines 24-27).

Manenti et al. teach a method wherein the processor automatically identifies the reporting device, and automatically adjusts the processed environmental characteristics based on the identified reporting device (Claim 33: see col. 4, lines 34-44: The Examiner notes that since the computer is programmed to communicate to the sensor it has adjusted to the protocol of the computer).

Manenti et al. teach a method wherein the reporting device comprises a personal computer (Claims 34 and 41: see col. 4, lines 24-27).

Manenti et al. teach a method further comprising amplifying the sensed environmental characteristic (Claim 35: see Figure 1: Amplifier 12).

Manenti et al. teach a method wherein the processor repeatedly and automatically detects to identify the transducer (Claim 36: see col. 4, lines 28-48).

Manenti et al. teach a method further comprising choosing an adaptive algorithm based on the transducer signatures of the identified transducer (Claim 37: see col. 4, lines 28-48: The Examiner notes that since the compensation/adaptation is automatic the process chooses how to calibrate or adjust the sensor).

Manenti et al. teach a method wherein outputting the environmental characteristics further comprises formatting the environmental characteristic (Claim 38: see col. 4, lines 28-48: The Examiner notes that the digital is formatted in protocol suitable for decoding by the computer).

Manenti et al. teach a method further comprising sigma-delta analog-to-digital converter digitally converting the environmental characteristic (Claim 39: see Figure 1: A/D Converter 16: The Examiner notes that a sigma-delta A/D converter is not given any significance, since they perform the same function).

Manenti et al. teach a method wherein the processor calibrates the environmental characteristic with the identified transducer signatures and the adaptive algorithm (Claim 40: see col. 4, lines 34-48).

Manenti et al. teach all of the features of the claimed invention, except a method for conditioning the environmental characteristic using the processor with firmware. Curry teaches conditioning an environmental characteristic using the processor with firmware (Claim 29: see paragraph 35 and paragraph 36). It would have been obvious to the person having ordinary skills in the art at the time the invention was made to modify Manenti et al. to condition the environmental characteristic using the processor with firmware, as taught by Curry, because this would allow more stable signals to be converted into digital data.

***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Raymond whose telephone number is 571-272-2221. The examiner can normally be reached on Monday through alternating Friday between 8:00 AM and 5:30 PM.

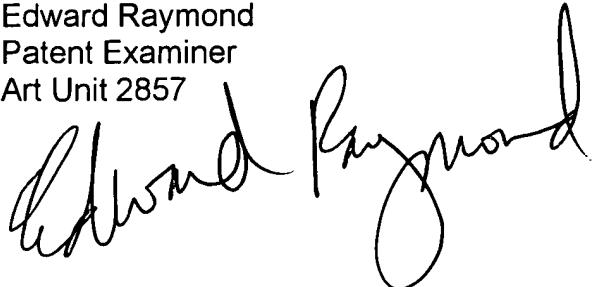
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-2221 for regular communications and 571-272-1562 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

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Art Unit: 2857

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March 17, 2005  
Edward Raymond  
Patent Examiner  
Art Unit 2857

A handwritten signature in black ink that reads "Edward Raymond". The signature is fluid and cursive, with "Edward" on the first line and "Raymond" on the second line.